REMARKS

Claims 1-3 and 11-17 remain pending in this case. Claims 1, 13, and 15 are independent. Reconsideration of the claims in view these remarks is requested.

Before responding to the Office Action, Applicants' Attorney believes that a brief review of the prosecution of this application would be helpful.

On December 17, 2002, a Notice of Allowance was issued in this case. With the Notice of Allowance, a Notice of Allowability with a statement of reasons for allowance was mailed. Reviewing the file, Applicants' Attorney noted that an IDS that had been submitted in July, citing US Publication 2002/0039545 to Hall (Hall) had not been returned indicating that the Examiner had considered the references. After a telephone conference with the Examiner, the Examiner decided to reopen prosecution.

In an Office Action dated July 8, 2003, the Examiner rejected claims 1 and 11-17 over Sakabe in view of Hall.

In response, Applicants' Attorney noted that Sakabe does not disclose the cover of claim 1, nor does Hall disclose the pressure plate of claim 1. It would not have been obvious to one skilled in the art to modify the upper base of Sakabe in view of Hall, as there is nothing in Hall to teach or suggest that modification to the upper base. In fact, it is submitted that one skilled in the art would have been motivated not to modify the upper base of Sakabe in view of Hall as the modification would have rendered the apparatus of Sakabe unworkable for its intended purpose. A skilled artisan also would

avoid modification of Sakabe in view of Hall, as Hall teaches a multi-well plate assembly which uses a cover for applying pressure to a gasket in lieu of a pressure plate.

In response to these remarks, the Examiner withdrew the rejection over Sakabe in view of Hall and issued a new, non-final, rejection of the claims over Hall in view of Sakabe. In the Office Action mailed February 2, 2004, the Examiner acknowledged that Hall fails to disclose a pressure plate disposed on the sealing material for dispersing a compressive force in a generally compressive manner across the layer of material." Office Action, paragraph 2, page 3. The Office Action asserts however, that "it would have been obvious to one having ordinary skill in the art at that time the invention was made to modify the cover assembly of Hall et al. to include a pressure plate, which is contacted by and pressed downward by the cover, disposed on the layer of material for improving the sealing of the plurality of well openings to prevent evaporation of liquid in the well openings and serve as a heat-distributing plate as taught by Sakabe." Id.

The Office Action also states,

"Note: The pressure plate is capable of dispersing a compressive force in a generally uniform manner across the layer of material. It appears the limitation is intrinsic to the pressure. Furthermore, the limitation is considered a process limitation, which is accorded no patentable weight in device claim, since it does not result in a structural difference between the claimed and prior art inventions." Id.

The present claims are summarized below.

Claim 1 recites that the cover assembly for the microplate comprises:

(1) a layer of material shaped and dimensioned to removably seal a plurality of well openings of said microplate;

(2) a pressure plate disposed on said layer of material for dispersing a compressive force in a generally uniform manner across said layer of material;

(3) a cover having a top and first and second sides, said top shaped so as to generate said compressive force when said cover is engaged with said microplate, said first and second sides each including an inward projection for supporting a bottom edge of said microplate;

(4) a plurality of vertical tabs extending downward from said projections; and

(5) a plurality of recesses in said cover assembly that register with said tabs, whereby a plurality of the cover assemblies can be stacked with the vertical tabs of each cover assembly extending down into the recesses of a cover assembly that is disposed beneath.

Claim 13 similarly recites that the claimed cover assembly for a microplate comprises:

(1) a layer of material shaped and dimensioned to removably seal a plurality of a microplate's well openings;

(2) a pressure plate disposed on said layer of material for dispersing a compressive force in a generally uniform manner across said layer of material; and

(3) a cover having a top and first and second sides, said top including a central, longitudinally extending portion in contact with said pressure plate and lateral portions extending upwardly from central portion at their inner edges, said sides extending downwardly from the outer edges of said planar portions and including projections that extend beneath bottom edges of said microplate;
whereby said lateral portions and said central portion provide a resilient force that bears downward on said pressure plate and upward on the bottom edges of said microplate.

Claim 15 recites the cover for a microplate, comprises:

(1) a layer of compressible material shaped and dimensioned to removably seal a plurality of a microplate's well openings;

(2) a pressure plate disposed on said layer of material for dispersing a compressive force in a generally uniform manner across said layer; and

(3) a cover having a top and first and second sides, said sides extending downwardly from the outer edges of said top and including projections that extend beneath the bottom edges of said microplate, said top bowing upwardly from a central portion thereof to said sides, whereby said top provides a resilient force that bears downwardly on said pressure plate and upwardly on the bottom edges of said microplate.

Each of the independent claims recites the claimed invention includes a layer of compressible material, a pressure plate for dispersing a compressive force in a generally uniform manner across said layer, and a cover that applies force to the pressure plate.

None of the prior art shows a cover assembly for a micro plate that includes these three features. Hall teaches a cover without a pressure plate. Sakabe teaches a plate that deforms a plastic material to seal the tray without any cover. There is no suggestion within the references to combine the references to obtain the claimed invention.

The assertion in the Office Action that "dispersing a compressive force in a generally uniform manner across a layer of material in intrinsic to the pressure" is contrary to the evidence.

In Hall, pressure is applied by the cover to the central portion of the sealing medium. In paragraph 0012, Hall states, "the source of the compressive force is the *curvilinear section* of the lid, which can provide a spring force when deformed, thereby applying a normal force more or less equally to the planar surface of a gasket . . ." In

Hall, the curvilinear spring cover does not have the rigidity necessary to uniformly disperse the pressure applied. In is inherent in the curvilinear spring design of Hall that the pressure applied to the gasket is at a maximum under the center of the cover which acts as a fulcrum that the lateral edges of the cover are flexed against to engage the sides of the microplate. The compressive force applied by Hall's curvilinear spring to the sealing medium varies across the tray from a maximum near the center to a minimum near the edges of the tray.

The claimed pressure plate is necessary to uniformly disperse the pressure to seal each cell in the microplate. The suggestion that "dispersing the compressive force in a generally uniform manner" limitation is a merely process limitation that does not result in a structural difference ignores the difference between a spring and a rigid member.

Similarly, the contention that the "dispersing the compressive force in a generally uniform manner" limitation is a process limitation that does not result in a structural difference between the claimed invention and the prior art is incorrect. In order for the pressure plate to distribute pressure in a generally uniform manner across a substantial area, the pressure plate must have sufficient rigidity to resist deformation when pressure is applied to only one part of the plate. Hall's curvilinear spring cover flexes when it applied to the microplate. Similarly, the cover of the present invention flexes to generate the compressive force. These covers do not transmit the pressure in a sufficiently uniform manner to assure uniform sealing of all cavities in the microplate.

Hall teaches away from using a pressure plate independent of the cover. The very first sentence of Hall's Detailed Description states, "an assembly generally designated **1** is shown in FIG. 1 comprises ***a one-piece metal lid* 3.** Continuing, Hall states, "FIG. 2 shows a planar uncompressed gasket **23** disposed on the convex side of the curvilinear section **19.**" Thus Hall is teaching away from using an independent pressure plate to promote uniform sealing.

Sakabe is directed to a thermal reaction apparatus for sealing liquid within cavities while preventing evaporation. Sakabe discloses an apparatus that includes an evaporation preventing sealing member that is formed of silicone oil sealed between two plastic sheets. The apparatus includes a lower base 22 with a lower heater 23 and a lower thermoconductive plate 24. The lower base is held in place by a thermally insulating member 26. In use, the elastic sheet 11 filled with the silicone oil 10, the upper thermal conductive plate 27, the upper heater 28 and the upper pressure plate or base 29 are superposed on the cavities. Sakabe then states,

> In such construction, a given pressure is applied to the upper base 29 so that the silicone oil 10 is displaced within the elastic sheet 11 to adjust to the different levels of the openings of the cavity 21 on the tray 20 to thereby apply uniform distribution of the pressure to the upper face of the tray 20. Next, the lower heater 23 and the upper heater 28 are operated to effect reaction of the solution A in the cavities 21 without evaporation of the solution A.

In Sakabe, pressure is applied not to seal the cavities of the plate, but to fill the cavity of the plate completely preventing evaporation of the solution in the cavity dur-

ing reactions at elevated temperatures. The pressure on the silicone oil sealing member in Sakabe is externally applied. The opposing force to create the seal is applied by the thermally insulating member 26. The pressure plate forces the upper heater and upper thermal conductive plate into contact with the silicone oil to transfer heat to the solution in the cavity in order to conduct a reaction. The pressure applied in Sakabe to fill the reaction cavities would necessarily be greater than the pressure needed to merely seal the cavities.

Sakabe teaches use of a pressure plate to secure a chemical reaction vessel under fixed conditions of volume and pressure while applying heat. The apparatus is Sakabe is used for a narrow and different purpose from the claimed apparatus, or from the apparatus disclosed in Hall.

Applicants submit that the present claims are allowable and solicit reconsideration of the claims and allowance. If the Examiner believes that the claims are not allowable, the Examiner is requested to contact the undersigned Attorney by telephone to discuss the issues.

Please charge any additional fee occasioned by this paper to our Deposit Account No. 03-1237.

Respectfully submitted,

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